



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

September 20, 2019

Brad Glenn, Ph.D  
Regulatory Manager  
Bayer CropScience  
2 T.W. Alexander Drive  
RTP, NC 27709

Subject: Registration Review Label Mitigation for Iodosulfuron-methyl  
Product Name: Celsius WG  
EPA Registration Number: 432-1507  
Application Dates: 12/18/2017  
Decision Numbers: 555109

Dear Dr. Glenn,

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Iodosulfuron-methyl Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

A copy of your label stamped "Accepted" is enclosed. Products shipped after 12 months from the date of this amendment must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

Page 2 of 2  
EPA Reg. No. 432-1507  
Decision No. 555109

If you have any questions about this letter, please contact Miguel Zavala by phone at 703-347-0504, or via email at [zavala.miguel@epa.gov](mailto:zavala.miguel@epa.gov).

Sincerely,

A handwritten signature in blue ink, appearing to be "Linda Arrington", with a stylized flourish at the end.

Linda Arrington, Branch Chief  
Risk Management and Implementation Branch 4  
Pesticide Re-Evaluation Division  
Office of Pesticide Programs

Enclosure

GROUP	B-2	O-4	HERBICIDE
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# CELSIUS<sup>®</sup> WG

[ABN: CELSIUS<sup>™</sup> WDG [Herbicide]]; [Celsius WG Herbicide]

- Editorial Note – Marketing claim positioned here

A Herbicide for the Postemergence Control of Annual and Perennial Broadleaf Weeds and Grasses in Warm-Season Turf Types (St. Augustinegrass, Bermudagrass, Centipedegrass, Zoysiagrass, [optional: add grass varieties]) listed in this label in Commercial and Residential Sites\*

Editorial Note – [Bracketed text] is optional

<b>ACTIVE INGREDIENTS:</b>	Thiencarbazone-methyl (CAS Number 317815-83-1).....	8.7 %
	Iodosulfuron-methyl-sodium (CAS Number 144550-36-7).....	1.9 %
	Dicamba (CAS Number 1918-00-9).....	57.4 %
<b>OTHER INGREDIENTS:</b>		32.0%
<b>TOTAL:</b>		100.0%

CELSIUS WG is formulated as a 68% water dispersible granule

\*Do not use on bahiagrass, seashore paspalum or cool-season turf types, including tall fescue, fine fescue, Kentucky bluegrass, perennial ryegrass, or creeping bentgrass.

[Note: Brackets indicate optional text or editorial statement]

EPA Reg No. 432-1507

EPA Est. No.

**STOP - READ THE LABEL BEFORE USE  
KEEP OUT OF REACH OF CHILDREN  
CAUTION**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

See [Back] [Side] Panel for First Aid Instructions and [Leaflet][Booklet] for Complete Precautionary Statements and Directions for Use. (Note to reviewer: Location of additional precautionary statements, directions for use will vary between those listed, depending on container type/size.)

**For MEDICAL and TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577**  
**For PRODUCT USE Information Call 1-800-331-2867**

FIRST AID	
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If swallowed:</b>	<ul style="list-style-type: none"> <li>• Immediately call a poison control center or doctor for treatment advice.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<p><b>For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577. Have the product container or label with you when calling a poison control center or doctor or going for treatment.</b></p>	

<p><b>ACCEPTED</b></p> <p>Sep 20, 2019</p> <p>Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 432-1507</p>
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# PRECAUTIONARY STATEMENTS

## HAZARD TO HUMANS AND DOMESTIC ANIMALS

### CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Harmful if swallowed.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

All mixers, loaders, applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves (except for applicators using ground boom equipment) made of any waterproof material such as polyethylene or polyvinyl chloride. See Engineering Control Statement for additional requirements and exceptions.

### User Safety Requirements:

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

### Engineering control statement:

When handlers use closed systems, enclosed cabs, in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [(40 CFR §170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands thoroughly with soap and water before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

## ENVIRONMENTAL HAZARDS

This chemical has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

This product is toxic to non-target plants. Non-target plants may be adversely affected if the product is allowed to drift from the areas of application. Avoid spray drift from treated area. Do not apply when conditions favor drift from treated areas. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. Do not drain or rinse equipment near desirable vegetation. Refer to the Spray Drift Management section of this label for additional information.

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for weeks after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of iodofenuron-methyl-sodium from runoff water and sediment. Runoff of this product will be greatly reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

## PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near extreme heat or open flame.

## DIRECTIONS FOR USE

**It is a violation of Federal law to use this product in a manner inconsistent with its labeling.  
Read entire label before using this product.**

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the same area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

[The following Agricultural Use Requirement box is only required if agricultural uses, such as sod farms, are on product label:]

## AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours (sod farm use only).

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants, soil or water, is coveralls over long-sleeved shirt and long pants, chemical-resistant footwear plus socks, chemical-resistant gloves made of any waterproof material, chemical-resistant headgear for overhead exposure, and protective eyewear.

## NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses. Do not enter or allow others to enter treated areas until sprays have dried.

## PRODUCT INFORMATION

### PRODUCT USES

CELSIUS™ WG is a selective herbicide with multiple modes of action that provide a broad spectrum of weed control. CELSIUS WG controls weeds after they have germinated (postemergence) and also has some residual activity that prevents new weed germination, depending on the specific weed.

CELSIUS WG is intended for foliar application by licensed commercial applicators to established turf including residential lawns, commercial lawns, golf courses, sports fields, parks, campsites, recreational areas, roadsides, school grounds, cemeteries, sod farms to control annual and perennial broadleaf weeds and grasses in certain warm-season turf types.

### SYMPTOMS

Weed growth ceases within hours after application of CELSIUS WG. Symptoms progress from yellowing or reddening/purpling to necrosis, resulting in control of weeds within 1-4 weeks after application, depending on the sensitivity of the weed and environmental conditions. Weed control is more rapid when soil temperatures are above 65 degrees, when soil moisture is adequate for weed growth, and when weeds are not under environmental stress (e.g. drought). This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated area. Protect the forage and habitat of non-target organisms by minimizing spray drift. For further guidance and instructions on how to minimize spray drift, refer to the Spray Drift Management section of this label.

### MODE OF ACTION

Two of the three active ingredients in CELSIUS WG (thiencarbazone-methyl and iodosulfuron-methyl-sodium) inhibit acetolactate synthase (ALS). ALS is responsible for the synthesis of amino acids that are essential for plant growth. Inhibition of these amino acids stops weed growth. Some weed species, however, have naturally occurring biotypes that are resistant to ALS-inhibiting herbicides. Resistant weed populations may occur when ALS herbicides are used year after year. To add to the weeds controlled and provide resistance management, CELSIUS WG also contains dicamba, a benzoic acid herbicide that acts on the same biochemical site as the natural plant auxin, indole acetic acid (IAA). Having herbicides with different modes of action (MOA) reduces the probability that resistant biotypes to CELSIUS WG will develop.

### HERBICIDE RESISTANCE MANAGEMENT

There is no known biotype resistance to this product, however, any weed population may contain or develop plants naturally resistance to CELSIUS WG. The resistant biotypes may dominate the weed population if the herbicide is used repeatedly in the same area. Appropriate resistance management strategies should be followed. To delay herbicide resistance take one or more of the following steps:

- Users should be aware of the target weed species and potentially resistant biotypes to select proper mode(s) of action
- Use labeled rates of herbicides and carefully follow the directions for use
- Users should scout after application to facilitate early detection of weed shifts and/or weed resistance
- Implement measures to avoid allowing weeds to reproduce by seed or proliferate vegetatively
- Users should report lack of performance to the registrant or their representative

Use of CELSIUS WG should conform to resistance management strategies established for the use area. Consult your agricultural advisor for resistance management strategies and recommended pest management practices for your area.

## TURF TOLERANCE

This product has been tested and can be used on the following types of turfgrass and their cultivars:

St. Augustinegrass (Floritam, Palmetto, Bitter Blue, Common, Amerishade, Raleigh, Sapphire, Delmar, Captiva [*add or delete varieties as needed*])

Bermudagrass (Tifway 419, Common, Tifsport, Discovery, Celebration, Sahara [*add or delete varieties as needed*])

Centipedegrass (Tifblair [*add or delete varieties as needed*])

Zoysiagrass (Meyer, Empire, Crown, Palisades, Cavalier, Zorro, DeAnza, Zenith [*add or delete varieties as needed*])

Bahiagrass [(Argentine; Pensacola [*add or delete varieties as needed*])]

Buffalograss (Legacy, Cody [*add or delete varieties as needed*])

Other turfgrasses and their cultivars may be tolerant to this product. However, tolerance testing must be done prior to use. Some temporary discoloration of certain warm-season grasses may occur to turf under stress from drought, disease, extreme cold or hot weather.

**Do not use** this product on bahiagrass, seashore paspalum or cool-season turf types, including tall fescue, fine fescue, Kentucky bluegrass, perennial ryegrass, or creeping bentgrass.

## USE OF CELSIUS WG NEAR SENSITIVE GRASSES

CELSIUS WG can damage or control cool season grasses. Some use sites, including many golf courses, grow warm and cool season grasses in the same vicinity. To reduce the probability of CELSIUS WG being moved from its site of application to adjacent areas containing sensitive grasses, practice the following.

- To prevent tracking from the application site onto sensitive grasses, maintain a 25 ft untreated buffer.
- Allow the leaf surface of treated turf to dry several hours prior to allowing foot traffic or equipment in the treated area adjacent to sensitive grasses.
- When there may be a risk to adjacent sensitive grasses, apply CELSIUS WG when the soil is less than field capacity. Avoid applications to saturated soil.
- Allow CELSIUS WG to be absorbed several hours prior to an irrigation cycle. If dew is present on the day following application, irrigate lightly (0.1-0.2 inches) prior to allowing foot traffic or equipment on the treated area.

## MOWING INSTRUCTIONS

Do not mow immediately after treating with this product or before spray has dried. After treatment, do not transfer clippings to non-target areas.

## IRRIGATION

Weed control and turf tolerance is best if turf is growing well and not under stress at the time of treatment. For best results, irrigate prior to treatment if grass is under stress. After application, do not irrigate until spray has dried.

## PRECAUTIONS

1. Rainfall before spray has dried may necessitate retreatment with this product or reduced weed control may result.
2. Make applications to actively growing weeds. Mature, hardened-off weeds may not be controlled. Weed control may be reduced if application is made in the presence of heavy dew, fog, and mist/rain or when weeds are under stress due to drought.
3. Apply spray mixtures of this product within 5 days of mixing to avoid product degradation.
4. Spot treatments to St. Augustinegrass turf at temperatures above 90 degrees may cause temporary growth regulation. Turf will assume normal growth rate after mowing.

## RESTRICTIONS

1. The maximum single application rate is 4.9 oz product/A. Do not apply more than a total of 7.4 oz (210 g) of product per acre (0.17 oz or 4.8 g of product per 1,000 sq ft) per year (365 days).
2. *[If sod farms is listed on label, add the following:* The reentry interval (REI) for sod farms is 24 hours.]
3. Do not apply this product by air or through any type of irrigation system.
4. Do not apply this product to turf if a frost or freeze is expected within 48 hours of application
5. *[If golf course use is listed on the label, the following restriction must be added:* Do not use this product on golf course greens and collars.]
6. Do not apply this product on turf exhibiting injury from previous applications of other products.
7. Apply this product only to established turf unless otherwise noted on the label.
8. Some ornamentals may be sensitive to this product. Do not plant ornamentals or bedding plants in treated bare areas for at least 30 days after the last application of this product.
9. Avoid application of this product near the roots of newly planted ornamentals.
10. In order to minimize risk to sensitive areas (water bodies or non-target plants), apply by broadcast application (boom-type sprayers) only when the potential for drift to adjacent sensitive areas is minimal (e.g., when the wind is 10 mph or less and is blowing away from the sensitive area) and maintain a 25-ft buffer between the point of direct application and the closest downwind edge of adjacent sensitive areas.
11. Keep people and pets out of the area during application.
12. Do not allow people or pets to enter the treated areas until sprays have dried.
13. Do not use this product on bahiagrass, seashore paspalum or cool-season turf types, including tall fescue, fine fescue, Kentucky Bluegrass, perennial ryegrass, or creeping bentgrass.

## APPLICATION

This product may be applied at three different rates depending on the weeds to be controlled. For the appropriate rate and species consult USE RATES FOR WEED CONTROL section. CELSIUS WG may be applied by broadcast, zone, or spot applications.

For broadcast applications, use a minimum of 10 gallons of water per acre. For weed control in dense weed populations, control of weeds under adverse growing conditions, or control of mature weeds, the optimum spray volume is 60 gallons per acre.

### ZONE

A zone application is defined as a broadcast application made to a defined area (less than 10,000 sq ft per acre). Add the specified product rate of 0.057-0.113 oz (1.6-3.2g) to 1-gallon water. One gallon of spray solution will treat up to 1,000 sq ft

### SPOT

Spot applications are defined as directed applications made to control one or several weeds in a turfgrass situation with a backpack or hand-held sprayer. Add the specified product rate of 0.057-0.113 oz (1.6-3.2g) to 1-gallon water. For spot applications, spray to wet. Avoid over application.

## TANK MIXING CELSIUS WG WITH ADJUVANTS AND FERTILIZERS

- In areas where weed pressure is high and adequate coverage is critical, add a non-ionic surfactant (NIS) at 0.25% v/v to the spray solution.
- For difficult-to-control weeds, the addition of methylated seed oil (MSO) at a rate of 0.25-0.5% v/v may improve weed control.
- Do not use a spray adjuvant at temperatures above 90 degrees.
- Application of CELSIUS WG with a spray adjuvant or nitrogen-containing fertilizers may damage turf that is under stress.

## APPLICATION METHODS, MIXING AND COMPATIBILITY

Uniform, thorough spray coverage with properly calibrated spray equipment is important to achieve consistent weed control. Select spray nozzles and pressure that deliver at least MEDIUM spray droplets as indicated in nozzle manufacturer's catalogs and in accordance with ASABE S572.1. Nozzles that deliver COARSE spray droplets may be used to reduce spray drift provided spray volume per acre (GPA) is increased to maintain coverage of weeds.

### Spray Solution pH

The efficacy of this product may be affected by the pH of the spray solution. A pH near 7.0 is ideal. If the pH is <6 and if product spray solution is not to be used within 24 hours, add a suitable buffer.

## Mixing Instructions

This product must be applied with clean and properly calibrated equipment. Prior to adding this product, ensure that the spray tank, filters, and nozzles have been thoroughly cleaned. Prepare only as much spray mixture as needed for application on the same day.

1. Fill spray tank with 25% to 50% of the required volume of water, and begin agitation prior to the addition of this product.
2. Before filling or adding any additional products, ensure full dispersion of this product.
3. If this product is applied in a tank mixture with other products, add this product to the spray tank first and ensure it is thoroughly dispersed before adding other products.
4. Continue to fill the spray tank with water to the desired volume and agitate while adding spray adjuvants or nitrogen fertilizers.
5. Continue agitation during application to ensure a uniform spray mixture.

## Compatibility

If this product is to be tank-mixed with other products, compatibility must be tested prior to mixing. To test for compatibility, use a small container and mix a small amount (0.5 to 1 qt) of spray, combining all ingredients in the same ratio as the anticipated use. If any indications of physical incompatibility develop (precipitation, settling, changes in color), do not use this mixture for spraying. Indications of incompatibility may occur within 5-15 minutes after mixing. Read and follow the label of each tank mix product used for precautionary statements, directions for use, geographic and other restrictions.

## TANK CLEANUP PROCEDURE

1. Drain the tank completely, then wash out tank, boom, and hoses with clean water. Drain again.
2. Fill the tank half full with clean water and add ammonia (i.e. 3% domestic ammonia solution) at a dilution rate of 1% (i.e. 1 gallon of domestic ammonia for every 100 gallons of rinsate). Completely fill the tank with water. Agitate/re-circulate and flush through boom and hoses. Leave agitation on for 10 minutes. Drain tank completely.
3. Repeat Step 2.
4. Remove nozzles and screens and soak them in a 1% ammonia solution. Inspect nozzles and screens and remove visible residues.
5. Flush tank, boom, and hoses with clean water.
6. Inspect tank for visible residues. If present, repeat Step 2.

## WEED CONTROL INFORMATION

This product may be used to control a variety of broadleaf weeds and grasses in tolerant turf. Apply this product to susceptible weeds as listed in the Use Rates for Weed Control section. For certain weeds, a follow-up application made 4-6 weeks later may be needed if regrowth is observed. Total amount of product applied in a calendar year (365 days) must not exceed 7.4 oz (210 g) of product per acre.

## BERMUDAGRASS OVERSEEDED WITH RYEGRASS

Bermudagrass may be treated with broadcast applications of CELSIUS WG prior to overseeding. Allow a minimum of 14 days between broadcast application of CELSIUS WG to established turf and overseeding with ryegrass. Allow a minimum of 60 days between broadcast application of CELSIUS WG to bareground or to thin turf with significant areas of bareground. Intervals less than these may cause undesirable reductions in the stand of ryegrass. When making spot applications, allow 28 days before overseeding ryegrass. [This product may be used in conjunction with an application of Ronstar prior to overseeding for postemergence and preemergence weed control. Allow 4 months between the use of tank mix combinations of this product and RONSTAR herbicides and ryegrass overseeding]. When other products are mixed with this product, follow the most restrictive application interval prior to ryegrass overseeding on each label.

## SEEDING AND SPRIGGING INTERVALS

**Seeded Bermudagrass, Zoysiagrass, and Centipedegrass:** This product may be applied to Bermudagrass up to 60 days prior to seeding without a significant reduction in stand where the soil is disturbed at planting. For newly established stands, do not apply this product for at least 4 weeks after emergence as injury may result.

**Sprigged Bermudagrass:** This product may be applied to sprigged Bermudagrass no sooner than 2 weeks after sprigging.

## DALLISGRASS CONTROL

This product in combination with REVOLVER Herbicide (2 fl oz per gallon) and MSO at 1% v/v applied as a spot or zone treatment in late summer or early fall will suppress and/or control dallisgrass. Applications made sooner in the growing season may not be effective. Add the specified product rate of 0.085 - 0.113 oz (2.4 - 3.2 g) to enough water to create approximately one gallon of spray solution. One gallon of spray solution will treat up to 1,000 sq ft. Make a second application if regrowth is observed 30-60 days later, but do not exceed 0.17 oz (4.8 g) of product per 1,000 sq ft in a calendar year.

## CRABGRASS CONTROL

CELSIUS WG controls large crabgrass (*Digitaria sanguinalis*) prior to tillering. Add the specified product rate of 0.085 - 0.113 oz (2.4 - 3.2 g) to enough water to create approximately one gallon of spray solution. One gallon of spray solution will treat up to 1,000 sq ft. Make a second application if regrowth is observed 30-60 days later, but do not exceed 0.17 oz (4.8 g) of product per 1,000 sq ft in a calendar year.

## TANK MIX PARTNERS

CELSIUS WG may be used in combination with Revolver® Herbicide, Sencor® Herbicide, Prograss® Herbicide, Ronstar® WSP Herbicide, Ronstar FLO Herbicide, Acclaim® Extra Herbicide, Finale® Herbicide, and Specticle® 20WSP, and Specticle® FLO, for postemergence control of many grasses and broad leaf weeds. Symptom development may be slow in weeds treated under cool conditions (soil temperatures 65 degrees or less). For increased speed of control during cool temperatures, add carfentrazone (e.g., Quicksilver® Herbicide at 0.16 oz per acre), or pyraflufen-ethyl (e.g., Octane® Herbicide at 1.5 oz per acre).

When using CELSIUS WG in combination with other herbicides, follow the precautions and directions of both labels. When using new tank mixtures with CELSIUS WG, test physical and biological compatibility prior to use. St. Augustinegrass may show increased sensitivity to tank mixtures of CELSIUS WG and other products. Evaluate these tank mixtures in a limited area before widespread applications.

APPLICATIONS MAY BE MADE ONLY FOR USES FOR WHICH BOTH CELSIUS WG AND THE TANK MIX PRODUCT ARE REGISTERED. WHEN APPLYING A TANK MIX WITH THIS PRODUCT, THE MOST HIGHLY RESTRICTIVE LABELING APPLIES. Not all products are registered in all states; please verify state registration of these products in your state before selling, distributing, or using.

Not all products are registered in all states; please verify state registration of these products in your state before selling, distributing, or using.

## USE RATES FOR WEED CONTROL

### Broadcast Application

Rates for specific weeds are found in the Weeds Controlled tables below. Do not exceed the maximum amount of this product indicated in the table below in a calendar year (365 days).

Use Rate	Amount of CELSIUS WG			
	oz/1,000 sq ft	g/1,000 sq ft	oz/A	g/A
Low	0.057	1.6	2.5	70
Medium	0.085	2.4	3.7	105
High	0.113	3.2	4.9	140
Yearly max.	0.17	4.8	7.4	210

#### Footnotes:

The single maximum application rate of 4.9 oz of product per acre correlates to 0.027 lb thiencazone-methyl, 0.006 lb iodosulfuron-methyl-sodium, and 0.18 lb dicamba per acre.

The maximum annual application rate of 7.4 oz of product per acre per year correlates to 0.04 lb thiencazone-methyl, 0.009 lb iodosulfuron-methyl-sodium, and 0.27 lb dicamba per acre.

## Weeds controlled at 0.057 oz (1.6 g) of product per 1,000 sq ft

Common Name	Genus	Species
Barnyardgrass	<i>Echinochloa</i>	<i>crusgalli</i>
Blackseed plantain	<i>Plantago</i>	<i>rugelii</i>
Bracted plantain	<i>Plantago</i>	<i>aristata</i>
Broadleaf plantain, common plantain	<i>Plantago</i>	<i>major</i>
Buckhorn plantain, narrowleaf plantain	<i>Plantago</i>	<i>lanceolata</i>
California burclover	<i>Medicago</i>	<i>polymorpha</i>
Carolina fakedandelion	<i>Pyrhoppappus</i>	<i>carolinianus</i>
Carpetweed, Indian chickweed	<i>Mollugo</i>	<i>verticillata</i>
Catsear dandelion	<i>Hypochoeris</i>	<i>radicata</i>
Common chickweed	<i>Stellaria</i>	<i>media</i>
Common millet, proso millet	<i>Panicum</i>	<i>miliaceum</i>
Common ragweed	<i>Ambrosia</i>	<i>artemisiifolia</i>
Common sunflower	<i>Helianthus</i>	<i>annuus</i>
Common vetch	<i>Vicia</i>	<i>sativa</i>
Creeping beggarweed	<i>Desmodium</i>	<i>canum</i>
Curly dock	<i>Rumex</i>	<i>crispus</i>
Cutleaf evening primrose	<i>Oenothera</i>	<i>laciniata</i>
Dandelion	<i>Taraxacum</i>	<i>officinale</i>
Eastern black nightshade	<i>Solanum</i>	<i>ptychanthum</i>
Field madder	<i>Sherardia</i>	<i>arvensis</i>
Field violet, wild pansy	<i>Viola</i>	<i>arvensis</i>
Giant foxtail	<i>Setaria</i>	<i>faberi</i>
Giant ragweed	<i>Ambrosia</i>	<i>trifida</i>
Green foxtail	<i>Setaria</i>	<i>viridis</i>
Ground ivy, Creeping Charlie	<i>Glechoma</i>	<i>hederacea</i>
Hairy bittercress	<i>Cardamine</i>	<i>hirsuta</i>
Hairy nightshade	<i>Solanum</i>	<i>villosum</i>
Henbit	<i>Lamium</i>	<i>amplexicaule</i>
Horse purslane	<i>Trianthema</i>	<i>portulacastrum</i>
Johnsongrass	<i>Sorghum</i>	<i>halepense</i>
Lawn burweed, spurweed	<i>Soliva</i>	<i>sessilis</i>
Oxeye daisy	<i>Leucanthemum</i>	<i>vulgare</i>
Palmer amaranth	<i>Amaranth</i>	<i>palmeri</i>
Pennsylvania smartweed	<i>Polygonum</i>	<i>pensylvanicum</i>
Pitted morningglory	<i>Ipomoea</i>	<i>lacunosa</i>
Quackgrass	<i>Agropyron</i>	<i>repens</i>
Rabbitfoot clover	<i>Trifolium</i>	<i>arvense</i>
Red sorrel	<i>Rumex</i>	<i>acetosella</i>
Redroot pigweed	<i>Amaranth</i>	<i>retroflexus</i>
Shattercane	<i>Sorghum</i>	<i>bicolor</i>
Southern brassbuttons	<i>Cotula</i>	<i>australis</i>
Spiny sowthistle	<i>Sonchus</i>	<i>asper</i>
Stinkgrass	<i>Eragrostis</i>	<i>cilianensis</i>
Switchgrass	<i>Panicum</i>	<i>virgatum</i>
Tansy mustard	<i>Descurainia</i>	<i>pinnata</i>
Velvetleaf	<i>Abutilon</i>	<i>theophrasti</i>
Venus looking-glass	<i>Triodanis</i>	<i>perfoliata</i>
White clover	<i>Trifolium</i>	<i>repens</i>
White mustard	<i>Brassica</i>	<i>alba</i>
Wild buckwheat	<i>Polygonum</i>	<i>convolvulus</i>
Wild carrot	<i>Daucus</i>	<i>carota</i>
Wild oat	<i>Avena</i>	<i>fatua</i>
Wild onion	<i>Allium</i>	<i>canadense</i>

## Weeds controlled at 0.085 oz (2.4 g) of product per 1,000 sq ft

Common Name	Genus	Species
American burnweed, Fireweed	<i>Erechtites</i>	<i>hieraciifolia</i>
Annual bluegrass	<i>Poa</i>	<i>annua</i>
Asiatic hawkbeard	<i>Youngia</i>	<i>japonica</i>
Bahiagrass*	<i>Paspalum</i>	<i>notatum</i>
Black nightshade	<i>Solanum</i>	<i>nigrum</i>
Broadleaf signalgrass	<i>Urochloa</i>	<i>platyphylla</i>
Browntop millet	<i>Brachiaria</i>	<i>ramosa</i>
Canada thistle	<i>Cirsium</i>	<i>arvense</i>
Canada toadflax	<i>Linaria</i>	<i>canadensis</i>
Carolina dichondra, Dichondra*	<i>Dichondra</i>	<i>carolinensis</i>
Carolina geranium, wild geranium*	<i>Geranium</i>	<i>carolinianum</i>
Carpentergrass	<i>Axonopus</i>	<i>affinis</i>
Chamberbitter	<i>Phyllanthus</i>	<i>urinaria</i>
Common lambsquarter*	<i>Chenopodium</i>	<i>album</i>
Common purslane*	<i>Portulaca</i>	<i>oleracea</i>
Common waterhemp	<i>Amaranthus</i>	<i>rudis</i>
Corn speedwell	<i>Veronica</i>	<i>arvensis</i>
Creeping speedwell	<i>Veronica</i>	<i>filiformis</i>
Dalligrass**	<i>Paspalum</i>	<i>dilatatum</i>
Dogfennel	<i>Eupatorium</i>	<i>capillifolium</i>
Dollarweed, Pennywort*	<i>Hydrocotyle</i>	Spp.
Entireleaf morningglory	<i>Ipomoea</i>	<i>hederacea</i> var. <i>integriuscula</i>
Facelis, trampweed	<i>Facelis</i>	<i>retusa</i>
Fall panicum	<i>Panicum</i>	<i>dichotomiflorum</i>
Field pansy, Johnny jump-up*	<i>Viola</i>	<i>rafinesquii/bicolor</i>
Field pepperweed	<i>Lepidium</i>	<i>campestre</i>
Field sandbur	<i>Cenchrus</i>	<i>incertus</i>
Fleabane	<i>Erigeron</i>	Spp.
Florida betony	<i>Stachys</i>	<i>floridana</i>
Gophertail lovegrass	<i>Eragrostis</i>	<i>ciliaris</i>
Green kyllinga	<i>Kyllinga</i>	<i>brevifolia</i>
Heartwing sorrel	<i>Rumex</i>	<i>hastatulus</i>
Heath aster*	<i>Aster</i>	<i>ericoides</i>
Hop clovers, several species	<i>Trifolium</i>	Spp.
Horseweed, mare's tail	<i>Conza</i>	<i>canadensis</i>
Ivyleaf morningglory	<i>Ipomoea</i>	<i>hederacea</i>
Khakiweed*	<i>Alternanthera</i>	<i>caracasana</i>
Knawel	<i>Scleranthus</i>	<i>annuus</i>
Lady's Mantle	<i>Alchemilla</i>	<i>mollis</i>
Mouse-ear chickweed	<i>Cerastium</i>	<i>glomeratum</i>
Paleseed plantain	<i>Plantago</i>	<i>virginica</i>
Parsley piert	<i>Aphanes</i>	<i>microcarpa</i>
Pokeberry	<i>Phytolacca</i>	<i>americana</i>
Poorjoe*	<i>Diodia</i>	<i>teres</i>
Prickly sida*	<i>Sida</i>	<i>spinosa</i>
Prostrate knotweed	<i>Polygonum</i>	<i>aviculare</i>
Red fescue	<i>Festuca</i>	<i>rubra</i>
Rescuegrass*	<i>Bromus</i>	<i>catharticus</i>
Russian thistle	<i>Salsola</i>	<i>tragus</i>
Shepherd's purse	<i>Capsella</i>	<i>bursa-pastoris</i>
Sicklepod	<i>Senna</i>	<i>obtusifolia</i>
Slender aster	<i>Aster</i>	<i>gracillius</i>
Sprawling horseweed	<i>Calyptocarpus</i>	<i>vialis</i>
Swinecress	<i>Coronopus</i>	<i>didymus</i>
Tall fescue	<i>Festuca</i>	<i>arundinacea</i>
Texas panicum	<i>Panicum</i>	<i>texanum</i>

Thin paspalum, bull paspalum*	<i>Paspalum</i>	<i>setaceum</i>
Virginia dwarf dandelion	<i>Krigia</i>	<i>virginica</i>
White sweet clover	<i>Melilotus</i>	<i>alba</i>
Wild garlic, field garlic	<i>Allium</i>	<i>vineale</i>
Wild lettuce, tall lettuce	<i>Lactuca</i>	<i>canadensis</i>
Wild mustard	<i>Brassica</i>	<i>kaber</i>
Wild parsley	<i>Lomatium</i>	<i>foeniculaceum</i>
Yellow foxtail	<i>Setaria</i>	<i>lutescens</i>
Yellow rocket	<i>Barbarea</i>	<i>vulgaris</i>
Yellow woodsorrel, Oxalis*	<i>Oxalis</i>	<i>stricta</i>

**Weeds controlled at 0.113 oz (3.2 g) of product per 1,000 sq ft**

Common Name	Genus	Species
Annual lespedeza	<i>Lespedeza</i>	<i>striata</i>
Birdseye pearlwort	<i>Sagina</i>	<i>procumbens</i>
Black medic , hop medic	<i>Medicago</i>	<i>lupulina</i>
Dallisgrass**	<i>Paspalum</i>	<i>dilatatum</i>
Doveweed	<i>Murdannia</i>	<i>nudiflora</i>
Florida pusley	<i>Richardia</i>	<i>scabra</i>
Hemp sesbania	<i>Sesbania</i>	<i>exaltata</i>
Large crabgrass***	<i>Digitaria</i>	<i>sanguinalis</i>
Prostrate spurge	<i>Chamaesyce</i>	<i>maculata</i>
Purple cudweed	<i>Gnaphalium</i>	<i>purpureum</i>
Ryegrass (clumpy)	<i>Lolium</i>	<i>perenne</i>
Virginia buttonweed*	<i>Diodia</i>	<i>virginiana</i>
Western ragweed	<i>Ambrosia</i>	<i>psilostachya</i>
Whiteleaf sage	<i>Salvia</i>	<i>leucophylla</i>

\* Weeds that may need a second application of this product for control. If weeds are showing signs of recovery, make a second application 2-4 weeks after the first. Do not exceed 7.4 oz (210 g) of product per acre per year (365 days) for all applications.

\*\* Dallisgrass is best controlled with two spot applications as described above. Follow application directions for a spot application.

\*\*\*Large crabgrass (*Digitaria sanguinalis*) is best controlled at early growth stages as described above. Sequential applications of CELSIUS WG may be necessary

**[Optional packaging-related product measurement directions]:**

**CELSIUS WG rates and measurements chart for backpack sprayers and hand-cans  
(For spot treatments only)**

Labeled Use Rates				
CELSIUS WG Use Rates	oz/1000 sq ft	grams/1000 sq ft	oz/A	grams/A
Low	0.057	1.6	2.5	70
Middle	0.085	2.4	3.7	105
High	0.113	3.2	4.9	140

### Volumetric measure

Amount of CELSIUS WG to use per mix size					
CELSIUS WG Rate\Mix size	1 gallons	2 gallons	3 gallons	4 gallons	5 gallons
<b>Low</b>	½ teaspoon	1 teaspoon	1.5 teaspoons	2 teaspoons	2.5 teaspoons
<b>Middle</b>	¾ teaspoon	1.5 teaspoons	2.25 teaspoons	1 tablespoon	3.75 teaspoons
<b>High</b>	1 teaspoon	2 teaspoons	1 tablespoon	4 teaspoons or 1 tablespoon plus 1 teaspoon	5 teaspoons or 1 tablespoon plus 2 teaspoons

### Rate of CELSIUS WG from measuring cone

Rate of CELSIUS WG Mix size	oz CELSIUS WG per mix size			
	2 gallons	3 gallons	4 gallons	10 gallons
<b>Low</b>	-	0.17	0.226	0.56
<b>Middle</b>	0.17	0.25	0.34	0.85
<b>High</b>	0.226	0.34	0.45	1.13

### CELSIUS WG measuring cone equivalents

Rates on CELSIUS WG measuring cone in oz	Equals	Rate	Mix size
0.17	=	Low rate	3 gallons
0.226	=	Low rate	4 gallons
0.25	=	Middle rate	3 gallons
0.34	=	High Rate	3 gallons
0.34	=	Middle rate	4 gallons
0.45	=	High rate	4 gallons
0.56	=	Low rate	10 gallons
0.85	=	Middle rate	10 gallons
1.13	=	High rate	10 gallons

## SPRAY DRIFT MANAGEMENT

Damage to sensitive non-targeted plants can occur as a result of spray drift. Spray drift can be managed by several application factors and by spraying under the appropriate climatic conditions. Consequently, avoidance of spray drift is the responsibility of the applicator.

### Ground Boom Applications:

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy unless making a turf, pasture, or rangeland application, in which case applicators may apply with a nozzle height no more than 4 feet above the ground.
- For applications prior to the emergence of crops and target weeds, applicators are required to use a Coarse or Coarser droplet size (ASABE S572.1).
- For all other applications, applicators are required to use a Medium or Coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

### Boom-less Ground Applications:

- Applicators are required to use a Medium or Coarser droplet size (ASABE S572.1) for all applications.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

## Spray Drift Advisory

### Boom-less Ground Applications:

- Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

## **Handheld Technology Applications:**

- Take precautions to minimize spray drift.

## **SPRAY DRIFT ADVISORIES**

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

### **IMPORTANCE OF DROPLET SIZE**

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

### **Controlling Droplet Size – Ground Boom**

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

### **BOOM HEIGHT – Ground Boom**

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

## **SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

## **TEMPERATURE AND HUMIDITY**

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

## **TEMPERATURE INVERSIONS**

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

## **WIND**

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

WINDBLOWN SOIL PARTICLES: CELSIUS WG has the potential to move off-site due to wind erosion. Soils that are subject to wind erosion usually have a high silt and/or fine to very fine sand fractions and low organic matter content. Other factors which can affect the movement of windblown soil include the intensity and direction of prevailing winds, vegetative cover, site slope, rainfall, and drainage patterns. Avoid applying Revolver(r) Herbicide if prevailing local conditions may be expected to result in off-site movement.

**Sensitive Areas:** Apply by broadcast application (boom-type sprayers) only when the potential for drift to adjacent sensitive areas (water bodies or non-target plants) is minimal (e.g., when wind is 10 mph or less and is blowing away from the sensitive areas). Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. Do not apply under circumstances where possible drift to unprotected persons or to food, forage, desirable plants, or crops intended for sale, use, or consumption.

## **STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage or disposal.

### **PESTICIDE STORAGE**

Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

### **PESTICIDE DISPOSAL**

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

### **CONTAINER HANDLING**

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

## IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

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Net Contents: [Various (10 oz. or up to 10 lb)]

PRODUCED FOR



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[Optional Marketing Claims:]

Pictures:

